

## Letter from Alexander Graham Bell to Mabel Hubbard Bell, June 15, 1911

Beinn Bhreagh, near Baddeck, Nova Scotia. June 15, 1911. Mrs. Alexander Graham Bell, 1331 Conn. Ave., N. W., Washington, D. C. Dear Mabel:

Your note of Sunday (June 11) reached me last night (June 14) from Hotel Chelsea, Atlantic City. Glad Elsie is having a quiet time with you. I wish I could be with her now, but I am afraid she wouldn't have any quiet time while I'm around. There seems to be always something going where I am. Nothing, perhaps, that would interest other people, but it keeps me busy and interested all the time. First, I have been working very hard at my sheep records; and now I am off on Melville's experiments concerning ice and water, with other ideas crawling round, not yet expressed, relating to a reefing displacement for hydro-aerodromes. I shall have to start a Recorder all for myself — only three copies to be kept in three different places, all under my own control.

We now have seven volumes of the B. B. Recorder finished. I had a number of copies of Vols. 1, 2 & 3 bound. The other volumes have come out in parts while we were away.

Starting out with eight copies, we increased our circulation to fifteen, and finally to eighteen; and I could not be sure that I had complete volumes of four, five, six, and seven in Washington to bind. I was seriously troubled in Washington to find that none of the recipients of these Recorders appreciated them sufficiently to keep them in order, 2 and have the parts together so that they could be bound up when completed. I began seriously to doubt whether I should be able to preserve bound copies of vols. 4, 5, 6 & 7. Neither Daisy nor Elsie seemed to have taken care of their copies. I didn't ask Charlie but presume too that his copies are scattered and not together. I did hope that the copies sent to the Volta Bureau would be in condition for binding and sent for them. They were all separate, but (what I was pleased at) appeared by their lack of freshness, to have been read.

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Generally the finest and newest looking book in a house is the Bible. I would not judge this that its good looks are due, — — etc., etc. As a general rule the thumb-marked books are those which are most appreciated and which have been most used. However, revenons a nos moutons, the Volta Bureau Recorders were all separate and I had to put them in order, but I could not be sure that I had complete volumes; nor that I had not tacked on a portion of volume 7 to volume 5, etc. In fact, I was so uncertain about the completeness of the volumes that I did not send the parts down to the binder.

First thing I did here was to have Miss McCurdy hunt up the various Beinn Bhreagh copies. Those sent to the BB Farm Department, Buildings & Wharves Department, BB Laboratory, and John McDermid and AGB's copy. I am pleased to find that these are all O.K. with the exception of a missing number in the Laboratory copy. This will give us five copies for binding here, out of the eighteen copies printed. Davidson also has a copy which I told him he might keep as he seemed to appreciate them. it. I have not yet seen it, and 3 won't send for it, but will take the opportunity, when I go up to his house, to ask to see his copy without giving him notice. I shall be very much pleased if I find all the volumes carefully and methodically preserved in their proper portfolios. Davidson is a careful man and I have little doubt that the various issues will be all together and arranged in volumes. If so, I shall have his copy bound for him.

This brings me to the point that it is hardly worth while going to the trouble and expense of getting out eighteen copies and not have them preserved. Whatever, therefore, I do regarding the resuscitation of the Recorder, we shall limit the edition to Beinn Bhreagh recipients alone and only give bound copies to Elsie, Daisy, Charlie or who else wants them in Washington.

The copies must be under my own control until they are bound. They will be lent to people here on the condition that they take care of them and preserve them carefully in their portfolios. Then, when the volumes are completed, these copies will be recalled and bound; and the bound copies presented to libraries or individuals. The object of lending

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the different issues is to secure their preservation by being scattered, so that we have some moderate assurance that they will not all be burnt up.. However, enough about the Recorder.

Have just received your note of Monday (June 12). Wish Elsie and Daisy and all the children could be here in this beautifully cool, bracing air and out of the “atmosphere of doctors”. Doctors are all very well in emergencies, but —!

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The Kiaora is certainly a fine boat and I have no doubt you will be very much pleased with her. I think, however, she will require some modification to be perfectly comfortable. It is difficult to get in and out of her. The steersman will have to be about 6 feet 2 in height in order to see over the front part of the boat unless we provide him with a platform on which to stand which would involve raising the steering wheel, etc. She makes fine speed but I am not satisfied that the engine is always to be relied upon. There is no doubt, however, that she is a great success. The boathouse and canal are just **SPLENDID**. How we ever did without the canal is difficult to imagine.

I was very much surprised at the minus temperatures produced in Melville's salt water experiments; and I proceeded yesterday (June 14) to repeat them without undissolved salt.

I first provided a super-saturated solution of salt, having a residue of undissolved salt at the bottom. I then poured out the water into another vessel straining it through a table napkin to be quite certain that there should be no particles left in the water.

This water was placed in a large glass jar and a large lump of ice put in. The temperature was then taken with a Centigrade thermometer at different elevations in the water.

Result :— Temperature fell several degrees below zero(Centigrade).

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This result seemed so remarkable, that I shall not trust my observation without repetition. It may be possible, on account of the way in which the thermometer is graduated that I may have mistaken the zero mark, and have taken  $+5^{\circ}$  as the zero point. It is surely unlikely, however, that I could have made such a mistake as that and have made successive observations at frequent intervals for more than an hour without discovering the error. If the result is correct, however, it can be reproduced, and I shall not rest until it has been verified or disproved.

The result is most paradoxical; for it means that ice (of course at zero temperature) is able to induce in salt water a lower temperature than it possesses itself — and this without any undissolved salt in the water, and both when the ice is grounded and when it is floating. I will not here go into any details as I want to satisfy myself of the reality of the phenomenon before I put it down as a fact.

Item :— I will begin a new series of experiments by testing the thermometer to see whether it marks zero temperature with ice in fresh water.

I have just received a bulky envelope from Mauro, Cameron, Lewis & Massie; and will now proceed to investigate the contents.

Your loving Alec.